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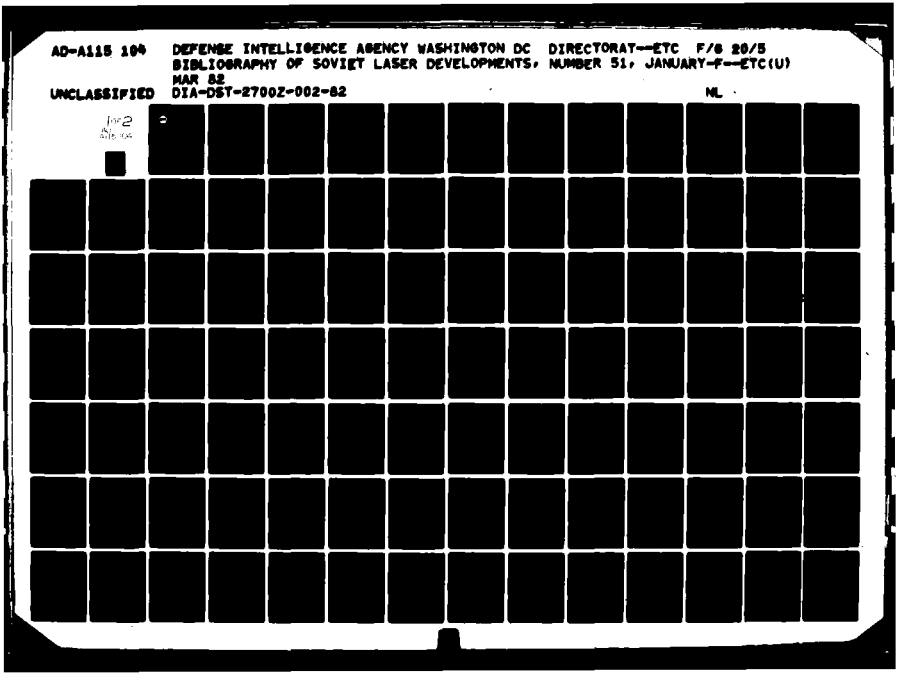

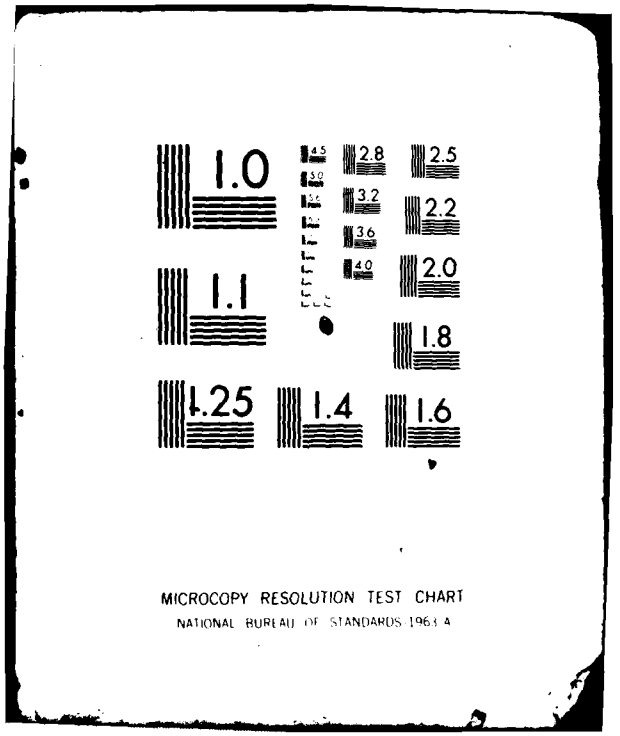
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No. 51

JANUARY - FEBRUARY 1981

Date of Report

March 5, 1982

Vice Director for Foreign Intelligence
Defense Intelligence Agency

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20. ABSTRACT

This is the Soviet Laser Bibliography for January-February 1981, and is No. 51 in a continuing series on Soviet Laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; crystal growing; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.

Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is January-February 1981, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are also included. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

SOVIET LASER BIBLIOGRAPHY, JANUARY - FEBRUARY 1981

TABLE OF CONTENTS

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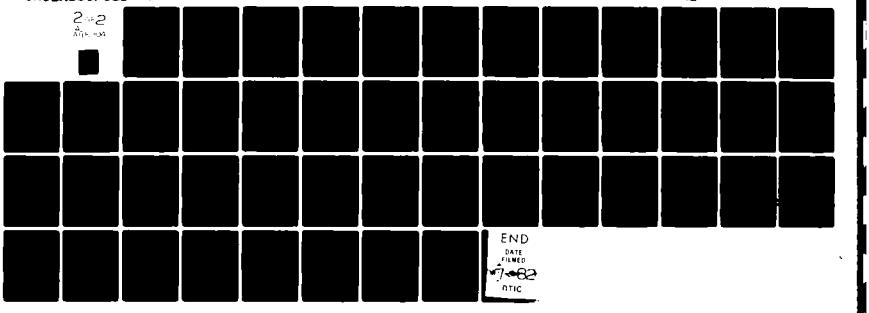

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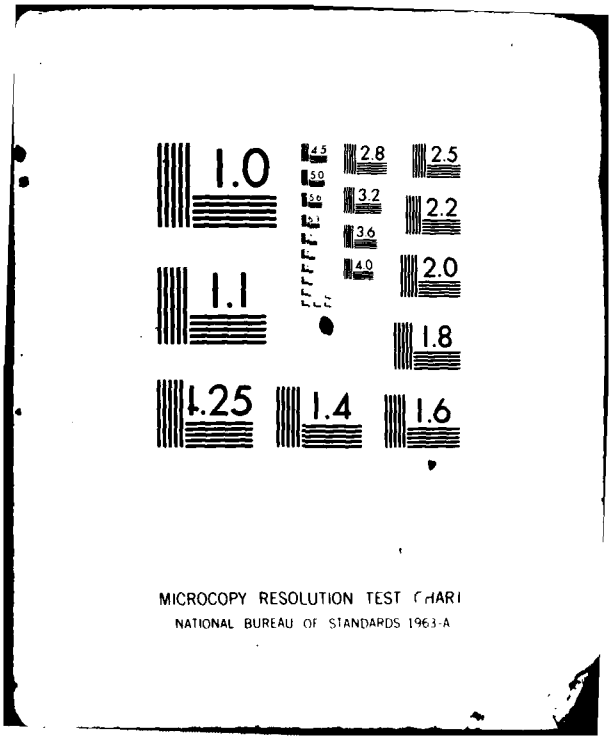
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IV. SOURCE ABBREVIATIONS

	(CIRC Codens)	
APH	(APAHA)	Acta physica Academiae scientiarum hungaricae
BP	(BPPHA)	Beitraege aus der plasmaphysik
BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
DAN B	(DBLRA)	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
DAN Ukr	(DUKAB)	Akademiya nauk Ukrayins'koyi RSR. Dopovidi. Serriya A. Fizyko-matematychni ta technichni nauky
EOM	(EOBMA)	Elektronnaya obrabotka materialov
FAiO	(IFAOA)	Akademiya nauk SSSR. Izvestiya. Fizika atomsfery i okeana
FGiV	(FGVZA)	Fizika goreniya i vzryva
FiKhOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FiKhS	(FKSTD)	Fizika i khimiya stekla
FMM	(FMMTA)	Fizika metallov i metallovedeniye
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Arm	(IAAFA)	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAN B	(VABFA)	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Fiz	(IANFA)	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya
I-FZh	(INFZA)	Inzhenerno-fizicheskiy zhurnal
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	(IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika

KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHVKA)	Khimiya vysokikh energiy
KL	(KNLTA)	Knizhnaya letopis'
Kristal	(KRISA)	Kristallografiya
Lit fiz sb	(LFSBA)	Litovskiy fizicheskiy sbornik
MTT	(IZMTB)	Akademiya nauk SSSR. Izvestiya. Mekhanika tverdogo tela
NM	(IVNMA)	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Opt app	(OPAPB)	Optica applicata [Poland]
Otkr izobr	(OIPOV)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PMFA	(PMFAA)	Pokroky matematicky, fyziky a astronomie
PSS	(PSSAB)	Physica Status Solidi (A). Applied Research
PSU	(PRSUB)	Pribory i sistemy upravleniya
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
Roz elektr	(RZETA)	Rozprawy elektrotechniczne
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(GZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1	Sbornik	Mezhdunarodnyy kongress po voysokoskorostnoy fotografii i fotonike. 14th. Moskva, 19-24 Oct 1980. Tezisy dokladov. Place of publication not given, 1980.
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SCF	(SCEFA)	Studii si cercetari de fizica
TiEKh	(TEKHA)	Teoreticheskaya i eksperimental'naya khimiya
TKiT	(TKTEA)	Tekhnika kino i televedeniya
Tr1	Trudy	Fizicheskiy institut AN SSSR. Trudy, no. 128, 1981.
Tr2		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 246, 1979.
Tr3		Fizicheskiy institut AN SSSR. Trudy, no. 126, 1981.
Tr4		Institut eksperimental'noy meteorologii. Trudy, no. 10(84), 1981.
Tr5		Leningradskiy gidrometeorologicheskiy institut. Mezhvedomstvennyy sbornik, no. 71, 1980.
Tr6		NII priborostroyeniya. Trudy, no. 40, Moskva, 1981.
Tr7		Glavnaya geofizicheskaya observatoriya. Trudy, no. 432, Leningrad, 1981.
Tr8		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 228, 1978.
Tr9		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 271, 1980.
Tr10		Tsentral'nyy NII morskogo flota. Trudy, no. 259, Leningrad, 1980.
Tr11		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 253, 1979.
Tr12		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 263, 1980.
Tr13		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 280, 1980.
Tr14		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 252, 1979.
TVT	(TVTYA)	Teplofizika vysokikh temperatur
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
VBU	(VBMFA)	Belorusskiy universitet. Vestnik. Seriya 1. Matematika, fizika, mekhanika
VKU	(-----)	Kiyevskiy universitet. Vestnik. Fizika
VMU	(VMUFA)	Moskovskiy universitet. Vestnik. Fizika, astronomiya

ZhETF	(ZEIFA)	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	(ZFPRA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhFKh	(ZFKHA)	Zhurnal fizicheskoy khimii
ZhNiPFiK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhNKh	(ZNOKA)	Zhurnal neorganicheskoy khimii
ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
ZhTF P	(PZTFD)	Pis'ma v Zhurnal tekhnicheskoy fiziki

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FILMED
8